



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,955	02/12/2004	Grady M. Wood	125.025US02	7084
34206	7590	11/23/2005	EXAMINER	
FOGG AND ASSOCIATES, LLC P.O. BOX 581339 MINNEAPOLIS, MN 55458-1339			TRAN, CHUC	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/777,955

Applicant(s)

WOOD, GRADY M.

Examiner

Chuc D. Tran

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claim 21 is withdrawn in view of the newly discovered reference(s) to Andersson (USP. 6,157,138). Rejections based on the newly cited reference(s) follow.

Response to Arguments

2. Applicant's arguments filed 3/28/05 have been fully considered but they are not persuasive.

Applicant argues that the patent by Andersson does not teach or suggest "pumping the energy stored on the first electrode to a positive terminal of the power supply during a discharging circle in claim 1", "discharging the positive charge on the first electrode to a positive terminal of the power supply with the use of a discharging inductor in claim 6", "placing a select amount of positive charge on a first electrode...in claim 11", "returning energy stored on the EL-lamp to the power supply during a discharge cycle via inductive pumping in claim 18" and "returning stored energy...via inductive energy pumping in claim 36". The Examiner respectfully traverses the Applicant's arguments. The patent by Andersson clearly teach in claim 1 the method of pumping the energy stored on the first electrode to a positive terminal of the power supply during a discharging circle (Col. 4, Line 9 and 17), in claim 6 the method of discharging the positive charge on the first electrode to a positive terminal of the power supply with the use of a discharging inductor (Col. 3, Line 64), in claim 11 the method of placing a select amount of positive charge on a first electrode (Col. 3, Line 64), in claim 18 the method of returning energy stored on the EL-lamp to the power supply during a discharge cycle via

Art Unit: 2821

inductive pumping (Col. 4, Line 8), and the method of returning stored energy...via inductive energy pumping in claim 36 (See, Col. 2, Line 64).

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Andersson (USP. 6,157,138).

Regarding claim 1, Andersson disclose a method of operating an EL-lamp circuit, the method comprising:

- storing energy on a first electrode of a EL-lamp with a power supply during a charging cycle (Col. 3, Line 64); and
- pumping the energy stored on the first electrode to a positive terminal of the power supply during a discharging cycle (Col. 4, Line 9 and 7).

Regarding claim 2, Andersson disclose that cycling on and off a discharge current path that couples the first electrode to ground (Col. 3, Line 8); and

- when the discharge current path is cycled on, conducting current from the fast electrode to the positive terminal of the power supply (Col. 2, Line 64); and
- when the discharge runt path is cycled off continuing to conduct current to the positive terminal of the power supply via a discharging inductor (Col. 4, Line 8) (See Table I);

Regarding claim 3, Andersson disclose that the discharge current path is off longer than it is on during the cycle (See Table I).

Regarding claim 4, Andersson disclose that storing energy on a second electrode of the power supply (Abstract); and .

Art Unit: 2821

- pumping the energy stored on the second electrode to the positive terminal of the supply

(Abstract).

Regarding claim 5, Andersson disclose that cycling on and offer discharge current path that couples the second electrode to ground (Col. 1, Line 45); and

- when the discharge current path is cycled on, conducting current from the second electrode to the positive terminal of the power supply with the use of an inductor (Col. 4, Line 55); and

- when the discharge current path is cycled off, conducting current to the positive terminal of the battery via the inductor (Col. 4, Line 9).

Regarding claim 6, Andersson disclose a method of operating a cycle of an EL-lamp driver circuit; the method comprising:

- placing a select amount of positive charge on a first electrode of a load with a power supply with the use of a charging inductor (Col. 5, Line 35);

- discharging the positive charge on the first electrode to a positive terminal of the power supply with the use of a discharging inductor (Col. 5, Line 62).

- placing a select amount of positive charge on a second electrode of the load with the power supply with the use of the charging inductor (Col. 5, Line 65); and

- discharging the positive charge on the second electrode to the positive terminal of the power supply with the use of the discharging inductor (Col. 6, Line 4).

Regarding claim 7, Andersson disclose that cycling on and off a charging current path through [an] the charging inductor that is coupled between the positive terminal of the power supply and a negative terminal of the power supply (Col. 5, Line 58); and

Art Unit: 2821

- when the charging current path is off, coupling charge to the first electrode (Col. 5, Line 34).

Regarding claim 8, Andersson disclose that cycling on and off a charging current path through the charging inductor that is coupled between the positive terminal of the power supply and a negative terminal of the power supply (See Table II); and

- when the charging current path is off coupling charge to the second electrode (Col. 6, Line 4).

Regarding claim 9, Andersson disclose that cycling on and off a discharge current path through [an] the discharging inductor that couples the first electrode to a positive terminal of the power supply (See Table II); and

- when the discharge current path is cycled on, conducting current from the first electrode to the positive terminal of the power supply (Col. 5, Line 60).

Regarding claim 10, Andersson disclose that cycling on and off a discharge current path through the discharging inductor that couples the second electrode to ground (Col. 1, Line 45); and

- when the discharge current path is cycled on, conducting current from the second electrode to the positive terminal of the power supply (Col. 6, Line 4).

Regarding claim 11, Andersson disclose that placing a select amount of positive charge on a first electrode of a load with a power supply (Col. 2, Line 64);

- discharging the positive charge on the first electrode to a positive terminal of the power supply (Col. 4, Line 30);

- placing a select amount of negative charge on the first electrode of the load with the

Art Unit: 2821

power supply (Col. 4, Line 10); and

- discharging the negative charge on the first electrode (Col. 4, Line 55).

Regarding claim 12, Andersson disclose that turning on a first current path between the positive terminal of the power supply and a first side of an inductor (Col. 3, Line 44); and

cycling on and off a second current path between a second side of the inductor and ground (Col. 3, Line 58).

Regarding claim 13, Andersson disclose that the first current path is turned on by a first transistor (SW 11) and the second current path is cycled on and off by a second transistor (SW14) (Fig. 1).

Regarding claim 14, Andersson disclose that cycling on and off a third current path between the first electrode and the positive terminal of the power supply (Col. 4, Line 37).

Regarding claim 15, Andersson disclose that the third current path is cycled on and off by a transistor (Col. 4, Line 35).

Regarding claim 16, Andersson disclose that turning on a second current path between a second side of an inductor and ground (Col. 4, Line 41); and

cycling on and off a first current path between the positive terminal of the power supply and a first side of the inductor (Col. 4, Line 40).

Regarding claim 17, Andersson disclose that the second path is turned on by a second transistor and the first current path is cycled on and off by a first transistor (Col. 4, Line 7).

Regarding claim 18, Andersson disclose a method of operating an EL-lamp circuit, the method comprising:

- storing energy from a power supply on an EL-lamp during a charging cycle

Art Unit: 2821

(Andersson, Col. 2, Line 1); and

- returning energy stored on the FL-lamp to the power supply during a discharge cycle

(Andersson, Col. 5, Line 62).

Regarding claim 19, Andersson disclose that cycling a first transistor in response to a first digital signal (Andersson, Col. 3, Line 8).

Regarding claim 20, Adersson disclose that inductively pumping energy to the EL-lamp in response to the cycling of the first transistor (Andersson, Col. 3, Line 59).

Regarding claim 21, Adersson disclose that the energy stored on the EL-lamp during a charging cycle is $1/2CV^2$ (Col. 1, Line 15)

Regarding claim 22, Andersson disclose that selectively creating a charging path to the EL-lamp (Col. 3, Line 9).

Regarding claim 23, Andersson disclose that selectively creating a charging path further comprises: selectively activating one or more switches (Col. 3, Line 43).

Regarding claim 24, Andersson disclose that selectively providing a discharge path to the power supply during the discharge cycle (Col. 4, Line 19).

Regarding claim 25, Andersson disclose that selectively switching one or more switches (Col. 4, Line 17).

Regarding claim 26, Andersson disclose that the discharge cycle is every half cycle (See Table II).

Regarding claim 27, Andersson disclose that cycling a second discharge transistor in response to a second digital signal (Col. 4, Line 15).

Art Unit: 2821

Regarding claim 28, Andersson disclose that inductively pumping energy stored on the EL lamp back to the power supply in response to the cycling of the second transistor (Col. 4, Line 9).

Regarding claim 29, Andersson disclose that selectively creating a discharge path to the power supply (Col. 4, Line 19)

Regarding claim 30, Andersson disclose that activating one or more switches (Col. 4, Line 18).

Regarding claim 31, Andersson disclose that providing a charging path to the EL lamp during the charging cycle (Col. 4, Line 12) (Col. 3, Line 2); and

- providing a discharging path to the power supply during the discharging cycle (Col. 4, Line 19) (Col. 3, Line 2).

Regarding claim 32, Andersson disclose that cycling a first transistor in response to a first digital signal during the charging cycle (Col. 3, Line 8); and

- cycling a second transistor in response to a second digital signal during the discharging cycle (Col. 4, Line 16).

Regarding claim 33, Andersson disclose that during an off period of the second digital signal, inductively conducting current from a negative terminal of the power supply to a positive terminal of the power supply (Col. 4, Line 11 & 15)

Regarding claim 34, Andersson disclose that the frequency of the first digital signal is different than the frequency of the second digital signal (Col. 3, Line 25).

Regarding claim 35, Andersson disclose that an on portion of a cycle of the second digital signal is shorter than an off portion of the cycle of the second digital signal (Fig. 1).

Art Unit: 2821

Regarding claim 36, Andersson disclose a method of operating an EL-lamp circuit, the method comprising:

- a selectively providing a charging path from a power supply to the EL-lamp during a charging cycle (Col. 3, Line 5);
- cycling a first transistor in response to a first digital signal during the charging cycle (Col. 3, Line 10);
- storing energy from a power supply on an EL-lamp during the charging cycle (Col. 2, Line 63) (Col. 3, Line 64);
- selectively providing a discharging path from the EL-lamp, to the power supply during a discharging cycle (Col. 2, Line 65) (Col. 4, Line 7);
- cycling a second transistor in response to a second digital signal during the discharging cycle (Col. 4, Line 15); and
- returning energy stored on the EL-lamp to the power supply during the discharge cycle (Col. 4, Line 15).

Regarding claim 37, Andersson disclose that inductively pumping energy to the EL-lamp in response to the cycling of the first transistor (Col. 3, Line 25 and 59).

Regarding claim 38, Andersson disclose that inductively pumping energy stored on the EL lamp back to the power supply in response to the cycling of the second transistor (Col. 4, Line 16) (Col. 3, Line 25).

Regarding claim 39, Andersson disclose that selectively activating one or more switches (Col. 3, Line 6).

Art Unit: 2821

Regarding claim 40, Andersson disclose that selectively activating one or more switches (Col. 3, line 6).

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC

November 16, 2005

Shih-Chao Chen 11/21/05
SHIH-CHAO CHEN
PRIMARY EXAMINER